USGS science for a changing world

Fisheries and Aquatics Bulletin

Edited by Janet A Cushing

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Inside this issue:

From the Editor's Desk

This issue of the FAB is truly a newsletter, in that the emphasis is more on the "news" aspect than on the Science Features. There's a lot to announce: new publications, past and future meetings, funding opportunities, new staff in Reston, and updates on the National Fish Habitat Action Plan. Please note, under the Funding Opportunities, there is a USGS Native American internship program has released a Request For Proposals—some of you may have already heard about it within your Science Center or on the USGS Intranet. This internship program is a great way to involve Native American/Alaskan Native students in your research, and improve relations between the Tribes and Alaskan Villages and USGS. There is a very short time deadline on submitting proposals, through your Center Director and Regions. Also, there is a lot happening with the National Fish Habitat Action Plan (NFHAP) (no longer Initiative), both at the national level and among the regional fish partnerships. As I wrote in the last issue, this is one of the most exciting things happening right now in the fisheries and aquatics realm, and scientists may want to keep the NFHAP on their radar screen, and actively engage in the partnerships.

However, that said, please keep right on submitting the fisheries and aquatics research that you're doing. It's a great way to highlight the breadth and depth of research happening in the USGS fisheries and aquatics world. If you have any questions about what kind of article to submit, please don't hesitate to contact me, Robin Schrock, or Doug Beard.

Another exciting thing happening with the Fisheries: Aquatics and Endangered Resources Program is that we are finally in the midst of updating our Program website! We are working with website specialists from the Bioinformatics branch on totally revamping our website. If you have any recommendations to make our website truly user-friendly and useful, or wish to see certain features on the website, please send an email to me (jcushing@usgs.gov) or Robin Schrock (robin_schrock@usgs.gov).

With that, I hope you enjoy this issue of the FAB, and please contact me if you want to see particular items in this newsletter.

Science Features:

Columbia River Salmonid-Waterbird Studies: The Cooperative Research Units Model in Practice

-Kathryn Reis, USGS Cooperative Research Units

Recent investigations at the Oregon Cooperative Fish and Wildlife Research Unit yield a unique example of how 2 USGS scientists, 19 graduate students and three post-doc fellows from Oregon State University worked in partnership with

federal, state and tribal entities to identify and address an emerging natural resource conflict. The following story depicts a challenging problem that involves two groups of federally protected species: juvenile salmonids that are protected under the Endangered Species Act and colonial waterbirds that are protected under the Migratory Bird Treaty Act.

In 1992, Unit Leader Carl Schreck at the Oregon CFWRU agreed to help the US Army Corps of Engineers (COE) and Bonneville Power Authority determine why juvenile salmonids (*Oncorhynchus spp.*) displayed lower than expected survival rates after being transported past hydropower dams in the lower Columbia River Basin. From 1992 to 1998, Schreck worked with his graduate students to estimate the mortality rate of juvenile salmon and steelhead following their departure from their spawning grounds in the lower Snake River to enter the Pacific Ocean via the lower Columbia River. During the study, each year a portion of the radio- and acoustic-tagged smolts were allowed to swim past each of the lower Columbia River Basin's eight dams while the remaining smolts were transported in barge holds past all of the dams before being released in the lower Columbia River downstream from the lowermost dam (Bonneville). In 1995, the researchers started to observe a significant loss of tagged smolts to avian predation. By 1998, the scientists discovered that between 11% and 17% of the smolts had been preyed upon by Caspian terns (*Sterna caspia*), double-crested cormorants *Phalacrocorax auritus*) or other colonial waterbirds that nested on Rice and East Sand Islands in the Columbia River estuary.

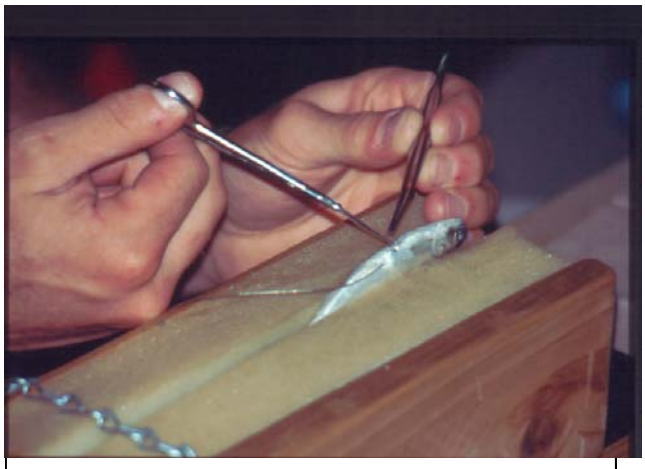

Photo credit: Shaun Clements, OR-CFWRU

In response to this finding, Assistant Unit Leader Dan Roby at the Oregon Coop Unit pulled together his own team of graduate students from Oregon State University to assess the impact of avian predation on juvenile salmonids. Between 1997 and 1998, the researchers found that juvenile salmonid predation occurred at the highest level on islands of the Columbia River Estuary, especially during the waterbirds' breeding season in April and May. Moreover, among all breeding waterbirds, Caspian terns on Rice Island consumed the highest percentage of juvenile salmonids.

Photo credit: Michael Wilhelm, CBR

As a result of the above studies, the National Marine Fisheries Service, COE, USFWS and other federal, state and tribal resource management agencies started working with the Oregon Coop Unit in 1999 to develop a Caspian tern management plan. Their goal was to reduce the impact of tern predation on the survival of salmonids in the Columbia River estuary. Because East Sand Island is located closer to the Pacific Ocean and, therefore, might offer a larger diversity of marine prey fish, the Unit scientists suggested moving the Rice Island tern colony to East Sand Island. To test the feasibility of this relocation strategy, Roby worked with additional graduate students to help the Interagency Caspian Tern Working Group implement a 3-year pilot study on the proposed management plan. By applying a variety of techniques to encourage Caspian tern nesting on East Sand Island while discouraging the bird's use of Rice Island, the Working Group accomplished a complete shift of nesting activity from Rice Island to East Sand Island by the bird's third breeding season. More-

over, since 2002, smolt predation among Caspian terns has dropped by 35 million fish, sparking similar relocation studies to occur for Caspian tern colonies in the Middle Columbia River and San Francisco Bay.

In totality, the salmonid migration and avian predation studies out of the Oregon Coop Unit demonstrate the mission of the Cooperative Research Unit program's partnership model. By pairing USGS scientists with quality graduate students at cooperating universities, the CRU program is able to equip its Cooperators and partners with the scientific information they need to solve conservation issues at the local, regional and national levels.

Editor's note: More detail about this study can be found in Schreck et al. (2006), Transactions of the American Fisheries Society, 135:457–475, and at http://www.columbiabirdresearch. org/.

Science Centers in the News

USGS Research Used for FDA Approval of New Drug for Freshwater-Reared Finfish

The following news was released by the FDA on February 5th:

The U.S. Food and Drug Administration (FDA) has approved 35% PEROX-AID®, an external microbicide for the control of mortality in freshwater-reared finfish eggs due to saprolegniasis, for the control of mortality in freshwater-reared salmonids due to bacterial gill disease associated with *Flavobacterium branchiophilum*, and for the control of mortality in freshwater-reared coolwater finfish and channel catfish due to external columnaris disease associated with *Flavobacterium columnare (Flexibacter columnaris)*. 35% PEROX-AID® is the first new immersion drug approved for finfish in twenty years.

The **USGS Upper Midwest Environmental Sciences Center (UMESC)**, La Crosse, Wisconsin, generated effectiveness and target animal safety as well as the environmental assessment for the approval (Public Master File 5639).

Editor's Note: Jeff Meinertz, from UMESC, will be presenting the results at the Aquaculture 2007 conference in San Antonio, TX. Robin Schrock will be representing the USGS on a Federal panel at that conference.

New Publications

Paper on freshwater mussels

Citation: Jones, J. W., E. M. Hallerman, and R. J. Neves. 2006. Genetic management guidelines for captive propagation of freshwater mussels (Unionoidea). Journal of Shellfish Research 25 (2):527-535.

Jones, J. W., R. J. Neves, S. A. Ahlstedt, and E. M. Hallerman. 2006. A holistic approach to taxonomic evaluation of two closely related endangered freshwater mussel species, the oyster mussel *Epioblasma capsaeformis* and tan riffleshell *Epioblasma florentina walkeri* (Bivalvia : Unionidae). Journal of Molluscan Studies 72: 267-283.

This publication describes the use of DNA microsatellite loci and observations in fish-host specificity and transformation success of glochidial to show the variation between two *Epioblasma* species. The paper identifies the population of oyster mussel in the Duck River, TN as a new species.

Contact: Dick Neves, mussel@vt.edu (mussel@usgs.gov)

White Sturgeon report

Citation: van der Leeuw, B.K., Parsley, M.J., Wright, C.D., and Koofoot, E.E., 2006, Validation of a critical assumption of the riparian habitat hypothesis for white sturgeon: U.S. Geological Survey Scientific Investigations Report 2006-5225, 20 p.

Fisheries scientist Mike Parsley from the Biological Resources Discipline teamed up with Water Resources Discipline scientist, Bjorn van der Leeuw, and others to study white sturgeon habitat. The study validates a critical assumption of the Coutant Riparian Habitat Hypothesis that during white sturgeon spawning, embryos are either deposited in, or transported to, seasonally flooded riparian habitat. The report is available at **http://pubs.water.usgs.gov/sir20065225**.

Two USGS Authors Contribute to New Conservation Book

Natural and human-caused disturbances, such as urbanization and development, can fragment or destroy natural habitats, threatening the survival of many plants and animal species. Maintaining or restoring connections between fragmented habitats is important for the conservation of species, but it can be challenging. A new book about conserving habitat connectivity synthesizes the current status of research and implementation, identifies application challenges, and highlights critical research areas. USGS wildlife biologist Sue Haig co-authored a chapter about understanding how migratory birds interact with their environment through all life stages, and the latest techniques available to measure migratory connectivity are reviewed. USGS aquatic ecologist Jason Dunham co-authored a chapter about using genetic techniques to assess connectivity in salmonid fish, which is difficult to study using traditional methods.

Citation: Neville, H., Dunham, J., Peacock, M. Assessing connectivity in salmonid fishes with DNA microsatellite markers, Chapter 13, p. 318-342. Catalog No: 1698.

Marra, P.P., Norris, D.R., Haig, S.M., Webster, M., Royle, A., 2006, Migratory connectivity, Chapter 7 *In* Crooks, K.R., Sanjayan, M., eds., Connectivity Conservation, Series- Conservation Biology (No. 14): Cambridge, UK, Cambridge University Press, p. 157-183. Catalog No: 1697.

Contact: Susan Haig, susan_haig@usgs.gov

Sex, Substrate, and Salmon

Salmon are renowned for their ability to return to their birth stream to spawn a new generation, but whether they return to specific sites (known as fine-scale homing) is not well studied. USGS scientist Jason Dunham co-authored a paper, from previous work with the U.S. Forest Service, examining the influences of sex and habitat fragmentation on fine-scale homing by Chinook salmon in the Middle Fork Salmon River (Idaho). The study analyzed the genetic relatedness of individual fish in the wilderness stream network, finding that males behave very differently from females on the spawning grounds. Male adult Chinook salmon roamed over long distances during spawning, whereas female salmon were considerably less mobile. Female salmon construct nests in stream substrates and may thus be tied to more restricted locations. This study is one of the first to show fine-scale patterns of homing by salmon, and it has important implications for identifying population structure in salmon.

Citation: Neville, H., Isaak, D., Dunham, J.B., Thurow, R., Rieman, B., 2006, Fine-scale natal homing and localized movement as shaped by sex and spawning habitat in Chinook salmon- Insights from spatial autocorrelation analysis of individual genotypes: Molecular Ecology, v. 15, p. 4589-4602. Catalog No: 1556.

Contact: Jason Dunham, jdunham@usgs.gov

NFHAP News

National Fish Habitat Board

The National Fish Habitat Board (NFHB) has been busy since the last newsletter, meeting in person on November 16, 2006, and by telephone on January 16, 2007.

The major focus of the November meeting was the regional Fish Habitat Partnerships (FHPs), which are described in the Action Plan as the "work units" for implementing the Action Plan. The Board was asked to adopt "Guidance for Establishing Fish Habitat Partnerships" (FHP Guidance) that had been provided to the Board for review. The Board adopted the FHP Guidance as Interim Guidance, but expressed a desire to make some minor changes to it before it is adopted as final. The Board agreed to send proposed revisions to Board staff for incorporation, and to schedule a conference call to adopt the revised final FHP Guidance.

The Board also continued discussions that began at their first meeting in September about the Science and Data Committee's efforts to develop specific national objectives. The current strategy is to develop a robust classification system and matrix of condition indicators that can be used at many scales to quantitatively measure the condition of fish habitat and document any changes occurring as a result of protection and restoration efforts. The Board supports this strategy, but also recommended that the Science and Data Team develop some interim targets to help guide implementation of the Action Plan until the primary

science and data effort is completed in 2010. The Board also voted to retain **Doug Beard (USGS**) and **Gary Whelan (Michigan DNR)** as the co-chairs for the Science and Data Committee.

During the January conference call, the Board reviewed the revisions made to the Interim Guidance for establishing FHPs, and formally adopted the criteria that regional coalitions should meet to be officially recognized as a Fish Habitat Partnership. Board recognition as an FHP will be contingent upon meeting criteria that identify strong and diverse partnerships, work within a defined geographic focus, remain strategic and consistent with national goals, and contain the potential for measurable progress. In addition, each FHP will be expected to implement the National Fish Habitat Action Plan under the guidance from the Board. There are currently five pilot Partnerships that are expected to apply for recognition as a FHP. To read the Guidance, go to: http://www.fishhabitat.org/partner/guidance.htm.

The Board also voted to accept the proposed agreement by Tom Jensen of Sonnenschein Nath and Rosenthal LLP, for *pro bono* legal services to the Board.

The Board's next meeting is scheduled to take place in Washington, DC, on March 1st and 2nd, where the focus will be on science and data issues.

Science and Data Happenings

In November 2006, the American Fisheries Society sponsored a Data Summit workshop in Salt Lake City, Utah. More than 85 fisheries and data management experts attended the workshop to continue efforts to build a consolidated database on the status of fisheries nationwide. A total of 41 states and 9 federal agencies were represented. The workshop resulted in a list of challenges to developing and sharing a national fish habitat database and possible solutions to overcome those challenges. This workshop represented an important step in developing a NFHAP Data System.

In December 2006, representatives from USGS, FWS, Michigan DNR, University of Michigan and Michigan State University met in Ann Arbor to discuss goals and process issues for a new post-doc that would be hired to begin the preliminary assessment of the nation's fish habitat.

Also in December 2006, the Science and Data Committee released the Draft Report, "Framework for Assessing the Nation's Fish Habitat" for public and peer review. Approximately 45 individuals or groups submitted comments. The Science and Data Committee is currently working on responding to those comments and revising the report for the final version.

At the November meeting, Doug Beard (USGS) presented a status update and recommendations for future work for the Science and Data Committee. The Board supported the Committee's strategy, but also recommended that the Committee develop interim objectives to help guide the implementation of the NFHAP until the full science and data effort is completed in 2010. In response to this recommendation, the Committee met on January 24-25, 2007 to develop draft interim objectives that will be presented to the Board at their upcoming meeting in March.

Mat-Su Basin Salmon Conservation Partnership

The Mat-Su Basin Partnership has formed a Steering Committee, which has been meeting regularly to address questions raised at the initial Partnership meeting. The Committee has opened two At-Large seats to increase local representation. Currently the committee consists of the Matanuska-Susitna Borough, Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and The Nature Conservancy (TNC). The Partnership will be working on an Action Plan, and defining the scope of the Science Working Group and Implementation Working Group. For more information on how to participate in this Partnership, please contact the project manager, Corinne Smith, at 907-276-3133 ext. 121, or corinne_smith@tnc.org.

For more information about the NFHAP, go to http://www.fishhabitat.org.

Meeting Notes

Successful Asian Carp Symposium

The USGS, especially the Columbia Environmental Research Center (CERC), made a big splash at the recent Asian Carp Symposium, contributing 31% of the poster presentations and 22% of the platform presentations. The Symposium occurred on August 22-23, 2006, in Peoria, IL, sponsored by the USGS and other agencies. The Symposium provided a forum to help understand the biology of exotic Asian carps and make available the most recent information to help better manage these invasive species in North America. Bighead and silver carp are so plentiful in the United States that the Mississippi River Basin Panel considers them the most important aquatic invasive species in the basin.

USGS scientists made a large contribution to the wealth of new information presented at the forum. Diana Papoulias, Ed Little, Harold Johnson, Carl Orazio and Duane Chapman (Symposium Chair), all of CERC, gave presentations, as well as Cynthia Kolar, Leo Nico, Jeff Rach, and Bruce Davis, also of USGS. A few of the topics presented were: the ecological effects of Asian carps, their biology, reproductive condition and occurrence of intersex in the Missouri River, contaminant burdens, pheromones, and an update on black carp in North America. These presentations and others are available at http://www.ifishillinois.org/asiancarp/. Proceedings of the Symposium will be available later in FY07 (see also Asian Carp Management at http://www.asiancarp.org/).

Although considerable information now exists on these carps, there remains a lot to learn, especially about their control and eradication. Chapman pointed out during his presentation that all locations that currently have confirmed, self-sustaining populations of bighead, silver, black or grass carp have access to a large river, with at least 80 km of free flowing water. Reservoirs with substantial river tributaries are at risk for establishing Asian carp populations. He brought to light the uncertainty that exists about other, yet-to-be invaded environments. Chapman concluded his presentation by telling the audience that he has learned to expect the unexpected - Asian carp continually find new ways to break the mold.

Southeastern Association of Fish and Wildlife Agencies Annual Conference

The Annual Conference of the Southeastern Association of Fish and Wildlife Agencies (SEAFWA) convened in Norfolk, VA, from November 5-8, 2006. The meeting attracted 850 participants from its 16 member states and Puerto Rico and from across the county. Many students and large numbers of minority students were also in attendance. Abstracts of plenary talks, technical sessions and descriptions of other events are documented at the SEAFWA conference website, http://seafwa2006.org/. In addition, the proceedings of each annual meeting are published (however publication is generally 12 to 18 months after the meeting). The meeting was hosted and planned by the Virginia Department of Game and Inland Fisheries. The USGS Fisheries: Aquatics and Endangered Resources Program, with assistance from AFWA, developed a Fisheries Technical Session on "A Regional Perspective on Aquatic Resources Conservation." The purpose of the session was to establish a dialog among the States, Federal agencies, NGOs and others regarding cooperation on research and other interests, especially on regional efforts of the National Fish Habitat Action Plan (NFHAP) and the State Wildlife Action Plan (SWAP) process.

Funding Opportunities

Short notice alert!

USGS Native American Internship

The USGS Native American office has issued an RFP for USGS researchers to hire a student intern to work on American Indian or Alaskan Native tribal lands for FY 2007. For more information about the proposal process, please contact Janet Cushing at jcushing@usgs.gov or Sue Marcus at smarcus@usgs.gov. **Deadline for submitting proposals is February 28, 2007**.

FishAmerica Foundation Fisheries Research Grants

Research grants are awarded for projects that

address regional or national sport fisheries issues such as management studies, large-scale habitat and water quality assessments, stock enhancement/ tagging studies, and economic evaluation. For 2007, FishAmerica will fund projects that further the National Fish Habitat Action Plan. The Request for Proposals, Application and Reporting Requirements will be posted shortly at: http://www.fishamerica.org/grants/.

Ph.D. Graduate Assistantship

The Department of Fisheries and Wildlife at Michigan State University is seeking a doctoral student to study effects of landscape-scale factors in structuring fluvial fish assemblages across the Nation. Using existing data, the student will be expected to develop a research project that considers the response of fish to landscape-scale factors, that considers regional differences in their response, and that develops sustainable management strategies based on results. Preferable start date is August, 2007. **The closing date for this announcement is March 8, 2007**. For more information, contact Dr. Dana Infante at infanted@msu.edu.

ESTCP Solicitation

The Environmental Security Technology Certification Program has released its solicitation for FY2008. The RFP topic of interest to fisheries and aquatics researchers is "Sustaining Natural Resources on Training and Testing Lands." **The due date for all pre-proposals is March 15, 2007**. Pre-proposals that show benefits to military installations and for military readiness will be favored, and should pertain to a demonstration project to apply research already completed. For more information, go to **http://www.estcp.org/opportunities**.

USGS Geology Capital Venture Fund

The Geology Discipline (GD) has issued an RFP for obtaining one-year seed money for innovative and potentially high-risk science projects that normally would not be funded. Venture capital funding is open to all employees of the GD only, but provides an opportunity for Biological Resource Discipline researchers to submit proposals with a GD colleague. The themes for 2008 that may be of interest to BRD researchers are:

- Understanding the transition from onshore to offshore
- Landscape monitoring
- Health

Deadline for proposals is April 6, 2007. If you want the full memo issued by GD, please email Janet Cushing at jcushing@usgs.gov.

Upcoming Meetings

Pacific Salmon Conference

Oregon Sea Grant will host an interdisciplinary conference— Pathways to Resilience: Sustaining Pacific Salmon in a Changing World —in Portland, OR, on **April 3-5, 2007**. The meeting is a forum for exploring the concept of resilience and its application to ecosystem management and salmon recovery. For more information, go to http://oregonstate.edu/conferences/resilience/.

International Symposium on the Science and Conservation of Horseshoe Crabs

USGS is one of the sponsors of this symposium, which will be held at Dowling College, Oakdale, Long Island, NY, on **June 11-14, 2007**. The International Symposium on the Science and Conservation of Horseshoe Crabs will bring together an international group of researchers, managers, and conservationists for the first time to:

1) share knowledge, present recent research results, and identify conservation challenges;

2) formulate plans for an international conservation program engaging scientists and managers from the U.S. and other nations; and

3) document symposium products in a published proceedings.

For more information, go to http://www.horseshoecrab.org/isschc/.

2nd International Symposium on Diadromous Fishes

This symposium will take place **June 18-21, 2007** in Halifax, Nova Scotia, Canada. It will review the current state of scientific knowledge with respect to biology, ecology, and conservation of diadromous fishes (including anadromous, catadromous, potamodromous, and amphidromous species). The symposium theme will address how recent alterations to the environment and human activity have affected diadromous fishes with respect to their sustainability and role in aquatic ecosystems. **For further information, contact Alex Haro, S.O. Conte Anadromous Fish Research Center, U. S. Geological Survey by phone at (413) 863-3806, or by email at Alex_Haro@usgs.gov**. Further information can also be found at: http://www.anacat.ca/index.php.

The 3rd North American Workshop on Rainbow Smelt

This workshop will follow the Diadromous Fishes Symposium on **June 22-23, 2007**, in Halifax, Nova Scotia. Information on this workshop can be found at http://www.anacat.ca/dl/smelt_workshop_2007.pdf.

2007 Ecological Society of America/ Society for Ecological Restoration Joint Annual Meeting

This meeting will take place **August 5-10, 2007**, in San Jose, California. The theme for this year's meeting is Ecology-based Restoration for a Changing World. One of the Oral Sessions is being organized by USGS: Elwha River Restoration: Dam Removal, Ecological Framework, and Baseline Studies. **For more information, please contact the principal organizer, Jeffrey Duda, USGS Western Fisheries Research Center, by email at jeff_duda@usgs.gov**. For more information about the meeting, go to http://www.esa.org/sanjose/.

10th International River Symposium and Environmental Flows Conference

This conference will take place in Brisbane, Australia, during **September 3-6, 2007**, and will focus on exploring environmental flows from a science, policy, management, and community perspecitive. For more information, go to http://www.riversymposium.org.

Go to Great Links

http://www.usgs.gov

National – New Research Strategy Aims to Reduce Human Impacts of Harmful Algal Blooms

A new report, Harmful Algal Research and Response: A Human Dimensions Strategy, proposes a detailed plan for the research necessary to address harmful algal blooms and associated negative impacts. Specific research needs identified in the report include assessing the socio-cultural and economic impacts of harmful algal blooms; developing outreach strategies that reduce public exposure; identifying susceptible populations; enhancing interagency and stakeholder coordination; and identifying strategies to reduce the impacts of algal toxins in recreational and drinking waters. The report was developed by NOAA and a host of federal and academic partners. The report can be found at: http://www.nccos.noaa.gov/stressors/extremeevents/hab/HDstrategy.pdf.

Gulf of Mexico – Harmful Algal Bloom Forecast System Established in Texas

A new harmful algal bloom forecast system developed by NOAA is now in place along the coast of Texas. This system is geared to predict harmful algal blooms (or "red tides") caused by the highly toxic algae *Karenia brevis*. The blooms are known to cause fish kills, shellfish toxicity, water discoloration, and respiratory distress in humans. The forecasting system uses observations made by Texas state agencies with NOAA imagery and models to supply improved information on the location, extent, and potential for development or movement of the blooms in the Gulf of Mexico. Go to: http://www.csc.noaa.gov/crs/habf/.

Report on the Status of West Coast Highly Migratory Species

The Status of the U.S. West Coast Fisheries for Highly Migratory Species Through 2005 – a Stock

Assessment and Fishery Evaluation (SAFE) report published in September 2006 -- is now available on the Pacific Fishery Management Council's website, at http://www.pcouncil.org/hms/hmssafe/0906safe/06SAFE_0828.pdf.

Biological Resources Staff Updates

New Fire Science Coordinator

Erik Berg has joined the USGS as the new Assistant Program Coordinator for the Terrestrial, Freshwater and Marine Ecosystems Program. In that capacity, Erik will have the lead for work on fire ecology and wildland fire science within the Ecosystems Program. Equally important, Erik will also serve as the lead contact person for coordination in fire science across USGS Disciplines, and as the primary contact on fire science issues with DOI (including the Office of Wildland Fire Science and DOI management bureaus), with USDA Forest Service R&D, and with other organizations (e.g., The Nature Conservancy, The Wildlife Society).

Erik comes to the USGS from his previous position as the National Program Manager of the Joint Fire Sciences Program, located at the National Interagency Fire Center in Boise, ID. Previously (1994-2004) Erik was a research forester at the Bent Creek Experimental Forest, Southern Research Station, USDA Forest Service in Asheville, North Carolina. He managed the Bent Creek technology transfer program and conducted research on upland hardwood and conifer forest responses to disturbance. Erik investigated vegetation responses to wind, fire, ice, single-tree and group selection, and shelterwood treatments, with an emphasis on spatial and resource gradient effects on forest understory vegetation. Erik received his Masters Degrees from the University of Idaho and Washington State University, and his Ph.D. from Clemson University.

Fisheries and Aquatics Node Manager

Andrea Ostroff, the new Fisheries and Aquatic Resources Node Manager, began work with the National Biological Information Infrastructure on February 1, 2007. Andrea comes from the Association of Fish and Wildlife Agencies where she worked cooperatively with USGS BRD to develop a database structure to collect aquatic habitat conservation project information from state fish and wildlife agencies. Prior to her work with the Association of Fish and Wildlife Agencies, she gained other fisheries and information management experience working for the New Jersey Division of Fish and Wildlife. Academically, Andrea's work focused on river otter distribution and mesohabitat characteristics in Kansas, where she obtained her M.S. from Emporia State University.

Share Your Expertise through the Fisheries and Aquatics Bulletin

Thank you to all those who have contributed material to this issue of the FAB: Kathryn Reis, Marcia Nelson, Sara DeBold, Robin Schrock, Jeff Meinertz, Dick Neves, Mike Parsley, Jason Dunham, Jim Fleming, Jeff Duda, Rachel Muir, and Christopher Estes.

Communicate your fisheries and aquatic resources items of interest to gain national exposure. Send articles and photographs with credits and captions to:

Janet Cushing—jcushing@usgs.gov or
Robin Schrock—robin_schrock@usgs.gov